STERCULIC ACID TREATMENT FOR CHOROIDAL NEOVASCULARIZATION

SUMMARY

The National Eye Institute (NEI) Laboratory of Retinal Cell and Molecular Biology is seeking parties interested in licensing use of sterculic acid and its derivatives for the treatment of diseases related to angiogenesis or mediated by 7-ketocholesterol-induced inflammation, in particular, atherosclerosis, age-related macular degeneration, and Alzheimer''s disease.

REFERENCE NUMBER

E-092-2010

PRODUCT TYPE

- Therapeutics

KEYWORDS

- hypertension
- CNS
- immune diseases
- Sterculic acid

COLLABORATION OPPORTUNITY

This invention is available for licensing and co-development.

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DESCRIPTION OF TECHNOLOGY

Sterculic acid is a naturally occurring cyclopropene acid present in kapok seed oil, cottonseed oil, and in the seeds of the Sterculia foetida tree. Sterculic acid has been reported to be a non-specific inhibitor of stearoyl-Co desaturase (SCD), which has been implicated in several disease states, including cardiovascular disease, obesity, non-insulin-dependent diabetes mellitus, skin disease, hypertension, neurological diseases, immune disorders and cancer (see also Ntambi JM, J. Lipid Res., 1999, 40(9):1549-1558).

Investigators at The National Eye Institute (NEI) Laboratory of Retinal Cell and Molecular Biology discovered that sterculic acid inhibits the neovascularization of the chick chorioallantonic membrane demonstrating that this compound exhibits a potent anti-angiogenic activity. Further, the NIH

investigators have shown that sterculic acid inhibits the formation of choroidal neovacularization in the retina of laser treated rats. These results suggest that sterculic acid possesses anti-angiogenic effect likely through regulating genes involved in the angiogenic process.

The present invention is directed to methods of using sterculic acid for the treatment of inflammation, in particular, 7-ketocholesterol mediated inflammation, 7-ketocholesterol cytotoxicity, or unregulated angiogenesis. Diseases mediated by 7-ketocholesterol-induced inflammation and 7-ketocholesterol cytotoxicity include atherosclerosis age-related macular degeneration, and Alzheimer's disease. Diseases mediated by unregulated angiogenesis include certain cancers and age-related macular degeneration. Also disclosed are methods of treating atherosclerosis or Alzheimer's disease using sterculic acid. Development Status: Early stage in vitro and animal model data.

INVENTOR(S)

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DEVELOPMENT STAGE

- Pre-clinical (in vivo)

PATENT STATUS

- **U.S. Issued:** US 8.993,626 (31 March 2015)
- **Foreign Filed:** International application no. WO 2011/163560

THERAPEUTIC AREA

- Eye and Ear